Claims

1. A transport system, comprising:

   (a) an underfloor high frequency alternate current primary conductor (10,10') for providing an electromagnetic field extending along said primary conductor for inductive energy transfer,

   (b) at least one electric transport vehicle (30) comprising:

      (b-1) two individually controllable and individually drivable drive wheels (36;38),

      (b-2) at least one pick-up unit (32) with a secondary conductor for said inductive energy transfer, said pick-up unit being pivotable relative to said vehicle and comprising at least one idle roller (40) adapted for being continuously contacted with the travel surface,

      (b-3) a sensor unit (34) adapted for sensing continuously a floor track signal,

      (b-4) a control unit which controls said two drive wheels in response to signals of said sensor unit for minimizing a deviation of said vehicle from said floor track signal,

   whereby said two drive wheels are arranged at a suitable distance in driving direction behind the axis around which the pick-up unit is pivotable for maintaining said pick-up unit essentially within said electromagnetic field during travel for a maximum of said energy transfer.

2. The transport system according to claim 1, whereby said floor track signal is said electromagnetic field provided by the primary conductor (10;10') and said sensor unit (34) comprises a magnetic resonance sensor for sensing said magnetic field.

3. The transport system according to claim 1 or 2, whereby said sensor unit is provided in the axis around which said pick-up unit is pivotable.

4. The transport system according to one of claims 1 to 3, whereby said at least one idle roller (40) is provided in driving direction behind the axis around which the pick-up unit is pivotable.

5. The transport system according to one of claims 1 to 4, whereby said vehicle comprises at least one, preferably two, swivelling roller(s) (60;62).

6. The transport system according to one of claims 1 to 5, whereby said vehicle comprises a further pick-up unit (33) which is horizontally pivotable relative to said vehicle around the same axis around which the at least one pick-up unit is horizontally pivotable relative to said vehicle.

7. The transport system according to one of claims 1 to 6, whereby said primary conductor is provided in an insulating track body (20) of a track system.

8. The transport system according to one of claims 1 to 7, which comprises a second underfloor primary high frequency alternate current conductor (10",10'") for providing a second electromagnetic field extending along said second primary conductor for inductive data transfer.

9. The transport system according to claim 8, whereby said vehicle comprises a further secondary conductor provided in said sensor unit (34) for said inductive data transfer.

10. The transport system according to claim 8 or 9, whereby said vehicle comprises a second pick-up unit (32') with a further secondary conductor for said inductive data transfer, said second pick-up unit being pivotable relative

to said vehicle and comprising at least one idle roller (40') adapted for being continuously contacted with the travel surface.

11. An electric transport vehicle for use in a transport system with an underfloor high frequency alternate current primary conductor for providing an electromagnetic field extending along said primary conductor for inductive energy transfer, said vehicle comprising:

(i) two individually controllable and individually drivable drive wheels (36; 38),

(ii) at least one pick-up unit (32) with a secondary conductor for said inductive energy transfer, said pick-up unit being pivotable relative to said vehicle and comprising at least one idle roller (40) adapted for being continuously contacted with the travel surface,

(iii) a sensor unit (34) adapted for sensing continuously a floor track signal,

(iv) a control unit which controls said two drive wheels in response to signals of said sensor unit for minimizing a deviation of said vehicle from said floor track signal,

whereby said two drive wheels are arranged at a suitable distance in driving direction behind the axis around which the pick-up unit is pivotable for maintaining said pick-up unit essentially within said electromagnetic field during travel for a maximum of said inductive energy transfer.

12. The vehicle according to claim 11, whereby said sensor unit comprises an electromagnetic resonance sensor for sensing an electromagnetic field.

13. The vehicle according to claim 11 or 12, whereby said sensor unit is provided in the axis around which said pick-up unit is pivotable.

14. The vehicle according to one of claims 11 to 13, whereby said at least one roller is provided in driving direction behind the axis around which the

pick-up unit is pivotable.

15. The vehicle according to one of claims 11 to 14, whereby said vehicle comprises at least one, preferably two, swivelling roller(s).

16. The vehicle according to one of claims 11 to 15, whereby said vehicle comprises a further pick-up unit which is horizontally pivotable relative to said vehicle around the same axis around which the at least one pick-up unit is pivotable relative to said vehicle.

17. The vehicle according to one of claims 11 to 16, whereby said vehicle comprises a further secondary conductor provided in said sensor unit (34) for said inductive data transfer.

18. The vehicle according to one of claims 11 to 17, whereby said vehicle comprises a second pick-up unit (32') with a further secondary conductor for inductive data transfer, said second pick-up unit being pivotable relative to said vehicle and comprising at least one idle roller (40') adapted for being continuously contacted with the travel surface.

19. A method of guiding an electric transport vehicle of a transport system with an underfloor high frequency alternate current primary conductor for providing an electromagnetic field extending along said primary conductor for inductive energy transfer, whereby said vehicle comprises

(i) two individually controllable and individually drivable drive wheels (36; 38),

(ii) at least one pick-up unit (32) with a secondary conductor for said inductive energy transfer, said pick-up unit being pivotable relative to said vehicle and comprising at least one idle roller (40) adapted for being continuously contacted with the travel surface,

(iii) a sensor unit (34) adapted for sensing continuously a floor track

signal,

(iv) a control unit which controls said two drive wheels in response to signals of said sensor unit for minimizing a deviation of said vehicle from said floor track signal,

whereby said two drive wheels are arranged at a suitable distance in driving direction behind the axis around which the pick-up unit is pivotable for maintaining said pick-up unit essentially within said electromagnetic field during travel of said vehicle in a course of a curve for a maximum of said inductive energy transfer.